Project co-financed by the European Regional Development Fund

CO-EVOLVE

Promoting the co-evolution of human activities and natural systems for the development of sustainable coastal and maritime tourism

Deliverable 4.2.2 (b)

Report on the second training course

WP4

PAP/RAC

Programme cofinanced by the European Regional Development Fund

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1. TRAINING COURSE REPORT

Context of the training course

1. Co-Evolve is a project that brings together partners determined to develop sustainable tourism plans for identified pilot areas. While the actions for each of the pilot sites are very different from one another, the partners have a common goal: to advance towards a sustainable tourism in accordance with the ICZM Protocol and MSP principles and through a participatory approach. This goal has to be pursued using a common approach in order to better plan and manage tourism offer in the Mediterranean basin, enabling maximizing of the possibilities of each destination while respecting its carrying capacities. This approach will also be used in the Southern Mediterranean countries when transferring the results in the framework of the work package (WP) 5. The objective of the training courses is to acquaint the project partners, in particular those implementing pilot actions at the local level, with the ICZM process, strategic planning process, sustainability indicators, participatory approaches, as well as with tools and techniques used to facilitate the implementation of ICZM on the ground, with the aim of reaching a common understanding and a harmonized approach when preparing sustainable tourism plans for pilot areas. This will enable local tourism actors and stakeholders to get a common basis for a successful planning, leading to integrated decisions in sustainable tourism, helping them to make more informed and integrated decisions for the governance and management of tourism in the Mediterranean.
This second training course was organized by PAP/RAC, based on the conclusions of the first training course during which the participants had the opportunity to express their wishes in terms of themes to address during the next training course. These themes were grouped into four clusters: sharing best practises, participatory techniques, practical use of sustainability indicators, and mobilizing funding for the implementation of the plans. In accordance with the wishes of the partners, the presentations were pragmatic and presented concrete examples of implementation on the ground.

2. The one-day training course for Co-Evolve partners on planning for improving the coastal and marine sustainability of tourist areas was organized in Barcelona, Spain (in the premises of the Union for the Mediterranean) on 30 October 2018. It was attended by 51 participants, as follows:

- From the Co-Evolve project (29 participants): 18 of them were representatives of all the pilot area partners (REMTH, Emilia Romagna Region, Delta PO park Veneto, Valencia Port, Department of Herault, RERA and Dunea), and 11 of them were representatives of partner institutions (ISMAR, IUAV, UTH, CPMR, PAP/RAC).

- Besides the Co-Evolve projects partners, the meeting was attended by 22 participants who were MedCoast4BG partners. MedCoast4BG is a Union for the Mediterranean (UfM) labelled project (since December 2017) that intends to extend CO-Evolve's conceptual and methodological model to the Southern & Eastern Mediterranean countries. It involves, considering common natural physical and geographic characteristics (at the Mediterranean level) but which may differ at local level. The project involves the whole partnership of Co-Evolve and several other key players from the Mediterranean partner countries. MedCoast4BG participants included representatives from various ministries and other administrative bodies, from the academic community and NGOs.

The full list of participants is attached as Annex 1 to this report.

Opening of the training course

3. The training course was opened on 30 October at 9:00 a.m. by Mr. Marko Prem, Deputy Director of PAP/RAC, who welcomed all the participants. He presented the agenda of the meeting which was adopted as attached in Annex 2 to this report. Mr. Roberto Montanari (Emilia-Romagna Region) then took the floor in his capacity of work package 4 coordinator. He greeted the participants, and expressed his satisfaction with having the MedCoast4BG participants joining the Co-Evolve training course.

Session 1: Presentation of the elaboration of the Šibenik-Knin coastal plan

4. Ms Daria Povh Škugor (PAP/RAC Senior Programme Officer) started the training course by presenting the on-the-ground experience of elaboration of an ICZM plan: the experience of the Coastal Plan for the Šibenik-Knin County. She first explained that a coastal plan or an ICZM Plan is a guide towards building resilience to climate change and towards sustainable development. It is an indicative plan, based on the Article 18 of the ICZM Protocol. She presented the plan by defining the key ingredients for success of such a project, which are actually lying in creating a favourable environment for the implementation of the plan. Among these she listed the following: embedding the plan into the governance system, creating ownership, defining clear, precise goals and secure their wide adoption; securing quality and

securing human and financial resources. Following that she presented how these key ingredients were tackled during the process of the Plan preparation.

She briefly introduced the key features of the Šibenik-Knin county, emphasizing the length of its coast and low density of its coastal population. The Plan objectives were presented as follows:

- to define a management system for coastal areas which can ensure the building of resilience and direct development towards sustainability;
- to identify particularly endangered areas with regard to coastal processes, especially areas vulnerable to the impacts of climate variability and change;
- to propose measures for adaptation to the impacts of climate variability and change; and
- to provide assistance in the formulation and integration of sectoral policies and plans.

She pointed out that the project team was quite satisfied with how those objectives were met. The coastal plan focused on several themes: space as the key resource of the coastal zone, water as the crucial source of life, and climate change as a transversal issue influencing all segments of life in this area. Particular attention was dedicated to forest fires, since this issue was recognized as the most immediate threat from climate variability and change. She presented the tools used, among which GIS and Climagine were the most important and illustrated the main findings for the listed topics.

She presented the policies and measures proposed by the plan and the Action Plan that followed. Coastal management policies were designed for sustainable spatial development, for water resources management, for building of coastal resilience and for sustainable economic development. General measures were proposed for the whole of the territory and specific measures were designed for each of the coastal settlements. The first management measure proposed was related to governance. Within the Action Plan measures were prioritized and for each measure it was specified who is responsible, including: partners; time span; implementation activities; needed financing; possible sources; and the indicators of achievement. The second part of the Action Plan identified priority projects that are to be developed individually.

Ms Povh Škugor concluded her presentation by going back to the key ingredients of success, pointing out the importance of the territorial approach, where heritage, identity and culture

are the key development drivers. She illustrated the Coastal Plan as a platform for prioritisation of the key issues and challenges in a strategic, integrated and long-term manner, free from the department responsibility limitations. She mentioned the importance of the new coordination mechanism for ICZM and its key role for future, and concluded by mentioning several new initiatives born during the implementation stage.
The full presentation is attached in Annex 3 to this report.

5. In the discussion that followed Ms Povh Škugor described in more detail the legal background of the Coastal Plan as well as the governance structure - the County Committee for Integrated Coastal and Marine Management. She presented its work, some themes that were tackled by this Committee, its way of functioning, as well as some plans for the future.

Session 2: Climagine methodology

6. Ms Veronique Evers (PAP/RAC consultant) introduced the Climagine methodology to the participants. This participatory method was used in the framework of the elaboration of the Šibenik-Knin coastal plan. She started by explaining that participation was a requirement stemming from the ICZM Protocol, and briefly presented the major added value from a participatory process in the framework of any ICZM initiative. She then spoke on how the Climagine methodology had been developed, and how it became one of the first participative methodologies fine-tuned to include the transversal issue of climate change. After listing the objectives of Climagine, she emphasized that participation was not a self-standing goal but a tool which was used in order to have a more efficient planning. All the outputs of Climagine are actually meant to feed into the ICZM plan/program. On the other hand, the inputs from the plan (for example socio-economic data, data on climate change and so on) give to the participants a knowledge base to make informed choices for the future of their coast.
She then explained in more details the 3 steps of the Climagine methodology.

- In the step 1: “Reflect and understand the present situation, taking into account the context of climate change”, Ms Evers explained how to use the tool of the rich pictures, a pictorial presentation of environmental, social or economic systems using drawings, diagrams, or symbols. She pointed out the fact that when climate change had to be taken into account in the framework of planning, there was a need to provide a minimum knowledge through the ICZM team of experts. Getting more information about the impacts of climate change on their territory may helps stakeholders to set priorities for their area in a different order than they would do otherwise.

- In the step 2: “Identify indicators and the band of equilibrium”, Ms Evers spoke about the necessity to be particularly attentive to data availability and reliability in the context of climate change. Indeed, many of the potential indicators related to climate change impacts could be hard or impossible to measure. Once again the presence of the ICZM expert team can be of great help.
- Finally, the step 3: ‘’Draw amoeba diagrams and build scenarios” is also gaining in complexity when including climate change issue because socio-economic, demographic, social and environmental evolution has to be combined with climate change scenarios. An advice in that situation is to focus on one scenario from IPCC.

She concluded her presentation by explaining that Climagine significantly enriched the knowledge of the participants, helped to break the ice amongst them and enabled them to take full ownership of the plan.
The presentation is attached in Annex 3 to this report.

7. The presentation was followed by a lively discussion during which the participants asked concrete questions about the choice of the indicators, the obstacles to participation, PAP/RAC experience with Climagine in the Southern Mediterranean countries, the profile of the stakeholders and the inputs of Climagine to the preparation of the action plan in the framework of the coastal plan.

Session 3: Practical use of indicators in the pilot project areas

8. The third presentation was made by Ms Tonia Koutsopoulou (UTH), who first introduced the customized toolkits produced for the 11 pilot sites in the framework of the Co-Evolve, based on the defined core indicators, destination indicators and pilot-area specific indicators. She then explained that sometimes it happened that an indicator important for the project could not be measured because of a lack of data. In that case, it is possible to measure tourism sustainability based on stakeholders’ perceptions. The first step to do so is the qualitative assessment. Through interviews and individual questionnaires, the stakeholders are asked about their opinion on a specific subject (for ex. Do you think that coastal erosion in the project area is a major problem?). The second step consists of processing the results, and synthesising them in a toolkit. Finally, in the third step, the results are presented in the form of a diagram which shows the sustainability threshold as well as the current sustainability ratio of the indicator. Ms Koutsopoulou then presented the results of the test on

stakeholder's perception which had been performed in the Komotini region. She finished her presentation by presenting the lessons learned from this experience:

- The qualitative questions have to be simple, and one should remember the aim, which is to get an assessment and not an actual number;
- The stakeholders who are questioned have to be carefully chosen in order to get an expert knowledge on the pilot areas;
- Interviews will be preferred to questionnaires as the results are clearer.

As a conclusion, she pointed out that this technique helped overcome data gaps, prioritize the actions as well as evaluate the contribution of the various stakeholders.

The full presentation is attached in Annex 3 to this report.

9. Following the presentation, the question of how to define the sustainable value for an indicator was raised. It was explained that, as this evaluation was measuring stakeholders' perception, one did not try to find the exact value but rather to get a general idea on how a stakeholder saw the situation. The participants agreed on the interest to have such an evaluation at the beginning of a project in order to define the priority issues to be dealt with.

Session 4: Designing and managing participatory processes, e-learning course

10. Ms Sabrina Franceshini (RER) introduced the 4th presentation of the training course: "Designing and managing participatory processes, e-learning course". She explained that the Emilia Romagna Region and the public bodies of the region had put in place an e-learning system named SELF. This e-learning course has a component on participation experiences named "Designing and managing participatory processes" which is meant to support project managers with no direct experience in participatory processes in establishing one. The course is fully self learning, with no external evaluation. It is organized in 3 steps:

- Participation: when and why is it useful or needed to have a participatory process?
- Participation tools and techniques
- Participatory process design

The Co-Evolve partners are expected to do the course, and to provide feedback in order to improve it. Following the presentation, the participants were invited to test one of the e-learning lessons in order to get familiar with the use of this tool. Mr Christian Marasmi (RER) helped the participants to navigate through the web site, and provided useful tips to take advantages from it.

The full presentation is attached in Annex 3 to this report.

11. Following the presentation, some clarifications were made regarding the need to have a participatory process when planning the development of an area. It was emphasized that in some cases, such as spatial planning, the participatory process was mandatory in the European Union countries. It was also explained that the e-learning system was meant to be a contribution by the Emilia Romagna Region to the Co-Evolve project, and that it would stay available for all the partners during the whole time span of the project and beyond. The contents of the platform on the participatory process have been translated in English in order to be suitable for all the partners.

Session 5: Financial opportunities and economic instruments for pilot project implementation

12. The presentation on “Financial opportunities and economic instruments for pilot project implementation” was held by Mr. Anil Markandya (PAP/RAC consultant, BC3 Basque Centre for Climate Change). He started by presenting the two main measures for ensuring the sustainable use of the coastal zones: the transferable development rights and the taxation of increased land values. He then spoke about the role of economic instruments for sustainable tourism in general, explaining that their main objective was to internalize the externalities, and gave some examples of economic instruments earmarked for specific purposes in the Mediterranean. He emphasized that there were 4 rules to ensure financial sustainability of coastal tourist areas: the polluter-pays principle; the beneficiary-pays principle, the budget support and the voluntary contributions. For each of these elements, an analysis of their legal framework, the collection cost, the equity, the political acceptability and the economic costs was performed. The example of MedLand, a fictive place in the Mediterranean, was then presented as an illustration. This example could be adapted and applied at the scale of Co-Evolve pilot areas. Mr. Markandya concluded his presentation by informing the participants that it was not difficult to find financial opportunities for sustainable tourism development. He emphasized that private and public sectors needed to work together to ensure the development is sustainable and balances environmental, social and economic objectives. It is also important to remember that financial sustainability involves balancing different financing principles.
The full presentation is attached in Annex 3 to this report.

13. A very lively discussion followed the presentation, where the question of who is responsible for the implementation of the economic instruments was raised. It was explained that it could be the authority which issues the permission for the development of the area. Another important point raised was whether a participatory approach should be used in order to determine whether to use economic instruments or not. It was answered that if there was already a participatory process in place in the framework of the planning of the development of an area, it would be a mistake not to consult stakeholders on this matter. The question on knowing how to define the area concerned by the transferable development rights was raised. It was answered that typically, the limits would be those of the existing administrative borders. A participant also asked what the main obstacles to the introduction of economic instruments were. Mr. Markandya explained that the key factor for success was the political will. Another question which arose was how to transfer the concept of transferable development rights to the Southern Mediterranean countries. It was suggested to do so by building on good experiences from the Northern Mediterranean countries, like for example the Sardinian experience.

Finally, it was noted that tourism operators may be reluctant to have such economic instruments, as they may have an impact on the prices of tourism activity. Nevertheless, it was emphasized that the benefits of those instruments were meant to improve the quality of the environment, and that as such it had a long-term positive economic impact on the destination by improving its attractivity. It is crucial to educate tourism actors on this matter in order for them to agree with their use.

Session 6: Cost-Benefit analysis

14. The last presentation of the day was held by Mr. Markandya, and dealt with the cost-benefit analysis in the context of development of sustainable coastal and maritime tourism in the Mediterranean. The cost-benefit analysis finds its justification in the fact that public investments and policies need to be evaluated in order to decide if they offer good value for the money spent. Indeed, a project or programme involves a number of financial expenditures and offers some financial returns as a result. For this reason, all governments undertake some kind of evaluation of the options proposed before deciding on which one to adopt. The cost-benefit analysis is a method which takes into account 2 different analyses: the financial one and the social one. The financial analysis looks at all expenditures at different points in time and all the returns. These expenditures and returns may be incurred by the government or the private sector, but both are taken into account. Nevertheless, Mr.

Markandya insisted on the fact this analysis took only the financial aspect into account, while policy makers had to consider more criteria such as social and economic ones. For this reason, it is necessary to perform, in parallel, a social assessment of the project, which will help determine whether the project is socially viable. Indeed, some impacts of a project do not generate financial flows but can represent costs or benefits to society. *Vice versa*, some impacts have financial flows but the size of the flow does not represent the true social cost. Mr. Markandya then explained the way to perform the cost-benefit analysis based on the formulas he presented. He then spoke about the reasons why financial and economic analyses of tourism might differ, and concluded his presentation by speaking about the limits of the cost-benefit analysis, and explained how they could be overcome.

The full presentation is attached in Annex 3 to this report.

15. In the discussion that followed details were asked on how to estimate the value of the environmental loss. It was also explained that a project could be evaluated positive even though being financially non profitable, because it was expected to have socially positive impacts.

Closure of the meeting

16. After thanking all the presenters for their contributions Mr. Prem thanked the participants for being actively involved during the course by asking questions and making this training course so lively through the discussions. He thanked the host (UfM) for providing excellent venue and the partners that were closely involved in organizing this training course, namely the WP4 lead partner and the CPMR. Mr. Prem declared the training course at closed 4:30 p.m.

ANNEX 1: LIST OF PARTICIPANTS

Partners of Co-Evolve

	Partner	Name
PP1	Region of East Macedonia and Thrace	Karampourniotis Konstantinos
PP1	Region of East Macedonia and Thrace	Kokkinos Dimitris
PP1	Region of East Macedonia and Thrace	Hamitidou Maria
PP1	Region of East Macedonia and Thrace	Malisianou Erato
PP2	CPMR Intermediterranean Commission	Leroy Flora
PP2	CPMR Intermediterranean Commission	Maniscalo Emmanuel
PP2	CPMR Intermediterranean Commission	Strangis Davide
PP3	University of Thessaly	Koutsopoulou Tonia
PP4	Emilia-Romagna Region	Franceschini Sabrina
PP4	Emilia-Romagna Region	Marasmi Christian
PP4	Emilia-Romagna Region	Montanari Roberto
PP4	Priority Actions Programme Regional Activity Center	Evers Veronique
PP4	Priority Actions Programme Regional Activity Center	Markandya Anil
PP4	Priority Actions Programme Regional Activity Center	Povh Daria
PP4	Priority Actions Programme Regional Activity Center	Prem Marko
PP5	Fundacion Valenciaport	Muñoz Andrea
PP6	Instituto Delta	De Faveri Roberta
PP6	Instituto Delta	Rosa Federico
PP6	Instituto Delta	Vitelletti Maria Letizia
PP7	Dubrovnik Neretva Regional Development Agency	Prce Ivana
PP7	Dubrovnik Neretva Regional Development Agency	Trkovic Olja
PP7	Institute for Spatial Planning of the Dubrovnik Neretva County	Savin Barbara
PP7	Institute for Spatial Planning of the Dubrovnik Neretva County	Ivan Lukačević-Verenac
PP8	Department of Hérault	Reboul Guilhem
PP9	Public institution RERA SD for coordination and development of the Split Dalmatia County	Novak Mili
PP9	Public institution RERA SD for coordination and	Radić Srećko

	development of the Split Dalmatia County	
PP10	University of Venice	Magni Filippo
PP10	University of Venice	Vittore Negretto
PP11	CNR ISMAR	Barbanti Andrea

Other participants

Name	Function	Country
Abassi Saïd	SMIT	Morocco
Abidid Sana	Ministry of Works and Public Transport	Lebanon
Agherrabi Zineb	Ministry of Agriculture	M Josep Maria
Aguirre Josep Maria	University of Girona	Spain
Andueza Joanes	Subcontractor video	Spain
Antun Antonio	NAO Al Midan	Lebanon
Bejaoui Bechir	National Institute of Marine Sciences And Technologies	Tunisia
Colavito Michele	National authority – Agency for Territorial Cohesion (PANORAMED)	Italy
El Masbahi Et-Tayeb	Conseil de la region de l'Oriental	Morocco
Fateh Ep Cheri Aïda	National Institute of Marine Sciences And Technologies	Tunisia
Gabarda Ariadna	University of Girona	Spain
Garcia-Heraiz Miguel	Secretariat of the Union for the Mediterranean	Spain
Gomes Da Silva Serge	Subcontractor video	Spain
Hatziyanni Eleni	Associate partner – Region of Crete	Greece
Marchi Valentina	CNR-IBIMET	(MITOMED^{+}PARTNER)
Msayleb Nahed	Ministry of Works and Public Transport	Lebanon
Mugosa Jelena	Ministry of Sustainable Development and Tourism	Montenegro
Natalini Lara	External consultant, InEuropa Srl	Italy
Penin Thibault	Subcontractor video	France
Prats Lluis	University of Girona	Spain
Sbia Khalid	Conseil de la region de l'Oriental	Morocco

Scepanovic Hajdana	Ministry of Sustainable Development and Tourism	Montenegro
Sensi Alessandra	Secretariat of the Union for the Mediterranean	Spain
Xhaferi Rovena	Anci Toscana	Italy
Zoppeddu Milena	Arko Latino	Italy

ANNEX 2: AGENDA OF THE TRAINING COURSE

CO-EVOLVE

Promoting the co-evolution of human activities and natural systems for the development of sustainable coastal and maritime tourism

2nd Training Course

AGENDA

OPEN TO MedCoast4BG PARTNERS AND OBSERVERS

Organizer: PAP/RAC and EMILIA-ROMAGNA REGION
Venue: Union for the Mediterranean (UfM) premises,
Palacio de Pedralbes, Pere Duran Farell 11, Barcelona, 08034
"Music Room"
Tuesday 30 October 2018 (9.00-17.00)

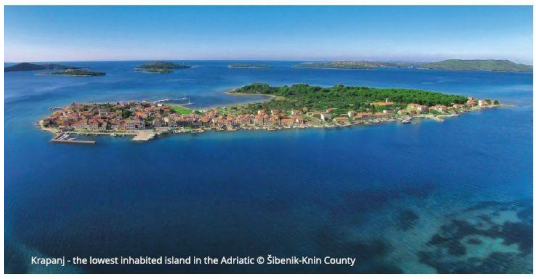
09:00 – 09:30	*Welcome Coffee*
09:00 - 09:20	Opening of the training course (Marko Prem)
09:20 – 11:00	**1st Morning session**
09:20 - 09:50	**Presentation of an on-the-ground experience of elaboration of an ICZM plan: the experience of the Šibenik-Knin County (Daria Povh)** In this presentation, Mrs. Povh will briefly explain the local context of Šibenik County, before to go into more details in the very concrete experience of Plan making. A special attention will be dedicated to the action plan which is one of the results of the Coastal Plan, and to the governance schemes in place to implement it.
09:50 – 10:20	**Presentation of "Climagine", a participatory method used for coastal plans (Veronique Evers)** In this presentation, the Climagine methodology will be explained step by step in order to provide the participants with inputs for their participatory process. This methodology has been fine-tuned to allow the inclusion of complex problematic such as climate change.
10:20 – 11:00	**Discussion** Participants will be invited to speak about their own experience in Co-Evolve, and to ask for guidance on specific issues if needed.
11:00 – 11:30	*Coffee Break*
11:15 – 13:00	**2nd Morning session**
11:30 – 11:50	**Practical use of indicators on the pilot project areas (Tonia Koutsopoulou)** The presentation will deal with the choice of indicators by pilot areas representatives, as well as with their use during the implementation of the Plan.
11:50 – 12:30	**Discussion** Participants will be invited to speak about the indicators they chose and about their use.
12:30 – 13:30	**Designing and managing participation processes, e-learning course (Sabrina Franceschini and Christian Marasmi)** - Introduction to the e-learning course - What inputs can be expected from the participatory processes in Co-Evolve pilots

	- Practical exercise on the e-learning course platform /!\ Participants are advised to **bring their laptop** for the 'e-learing course' part of the training session if possible
13:30 – 15:00	*Lunch Break*
15:00 – 17:00	**Afternoon session**
15:00 – 15:40	**Financial opportunities and economic instruments for pilot project implementation (Anil Markandya, PAP/RAC)** - Funding opportunities for Co-Evolve pilot project areas from European Union and other source of financing. - Economic instruments and their possible use for Co-Evolve pilot area partners
15:40 – 16:10	**Discussion** The discussion shall allow the participants to clarify which are the most relevant funding opportunities for their area as well as to get any needed information on economic instruments
16:10 – 16:30	**The cost benefit analysis (Anil Markandya, PAP/RAC expert)** The consultant will present a step by step methodology for the cost benefit analysis and its possible application in the context of Co-Evolve pilot projects.
16:30 – 17:00	**Discussion**
17:00	**Closure of the training course**
20:00	*Networking Dinner*

ANNEX 3: POWER POINT PRESENTATIONS

Session 1: Presentation of the elaboration of the Šibenik-Knin coastal plan

Daria Povh Škugor,
PAP/RAC
http://pap-thecoastcentre.org



Coastal Plan
for the Šibenik-Knin County:

A Road to Resilience

Co-evolve 2nd training course, Barcelona, October 30th, 2018

STRUCTURE OF THE PRESENTATION:

1. **What is a coastal plan?**
2. **Key ingredients for success**
3. **About Šibenik-Knin County**
4. **About the plan**
   - Objectives
   - Themes
   - Tools
   - Findings
5. **Policies and measures**
6. **Action Plan**
7. **Concluding remarks**

1

WHAT IS A COASTAL PLAN?

Coastal Plan or ICZM Plan is a guide towards building resilience to climate change and towards sustainable development

Coastal Plan is an "indicative" plan, based on the Article 18 of the ICZM Protocol

Coastal Plan is a new generation plan, one of the few around the Mediterranean

2

KEY INGREDIENTS FOR SUCCESS

CREATING FAVOURABLE ENVIRONMENT FOR THE IMPLEMENTATION OF THE PLAN:

- Embedding the plan into the governance system
  Ingredients of the governance are institutions, legal and regulatory instruments, as well as enforcement mechanisms; scientific expertise and technological tools and methods, information/education, consultation and participation process.
- Creating ownership
- Defining clear, precise goals and secure its wide adoption
- Securing quality
- Securing resources

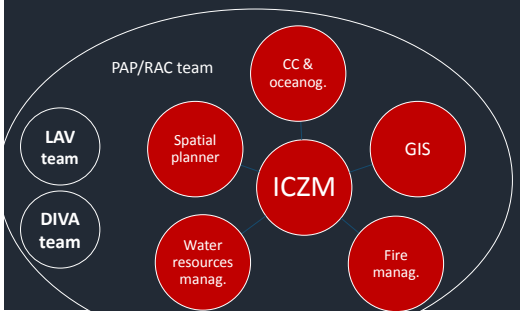
ICZM Protocol, Article 18
.. Each Party shall further strengthen or formulate a national strategy for integrated coastal zone management and coastal implementation plans and programmes … which may be self-standing or integrated in other plans and programmes, shall specify the orientations of the national strategy and implement it at an appropriate territorial level …

The spatial plan of the SKC
recognizes coastal zone and islands as the area of special values and features, and as such it proposes as mandatory continuous monitoring and proposing measures for its improvement.

3

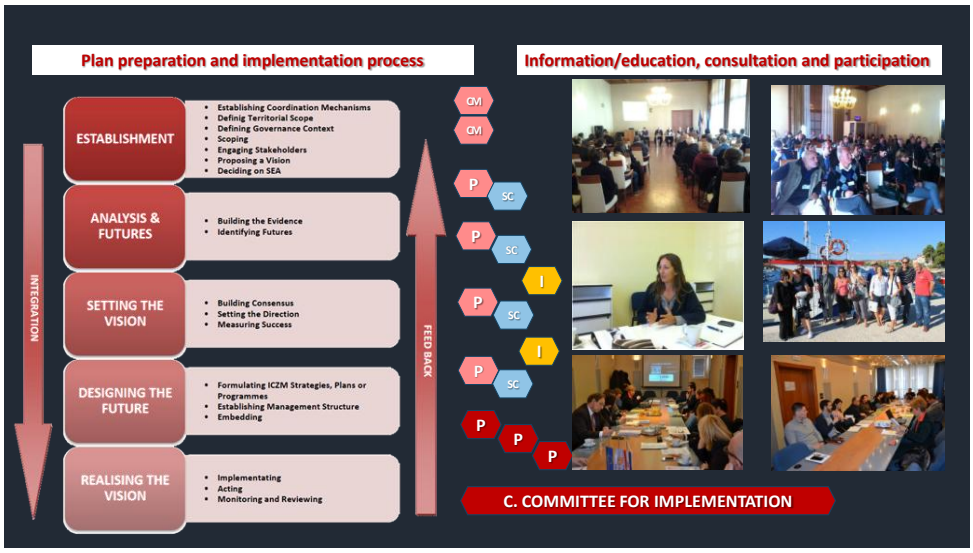
KEY INGREDIENTS FOR SUCCESS

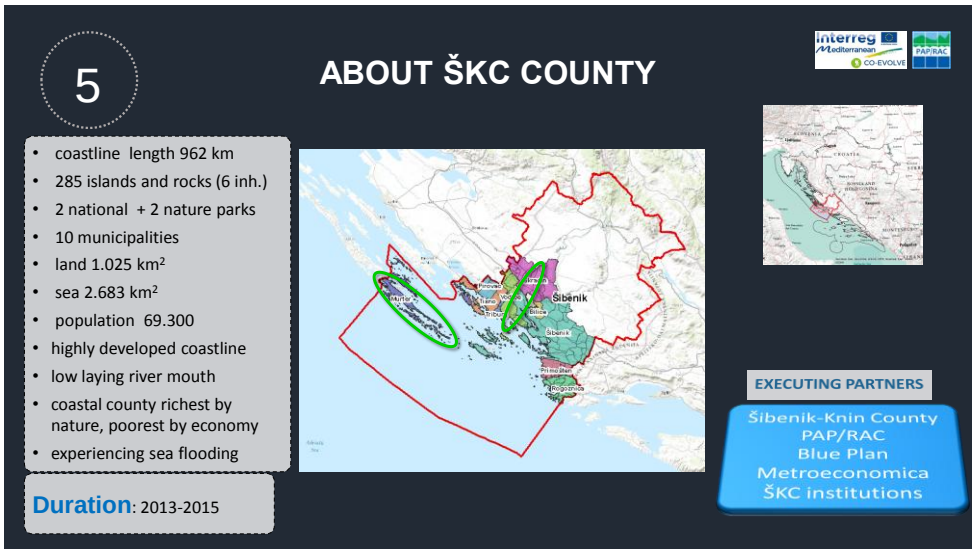
Ingredients of the governance are institutions, legal and regulatory instruments as well as enforcement mechanisms; scientific expertise and technological tools and methods, information/education, consultation and participation process.

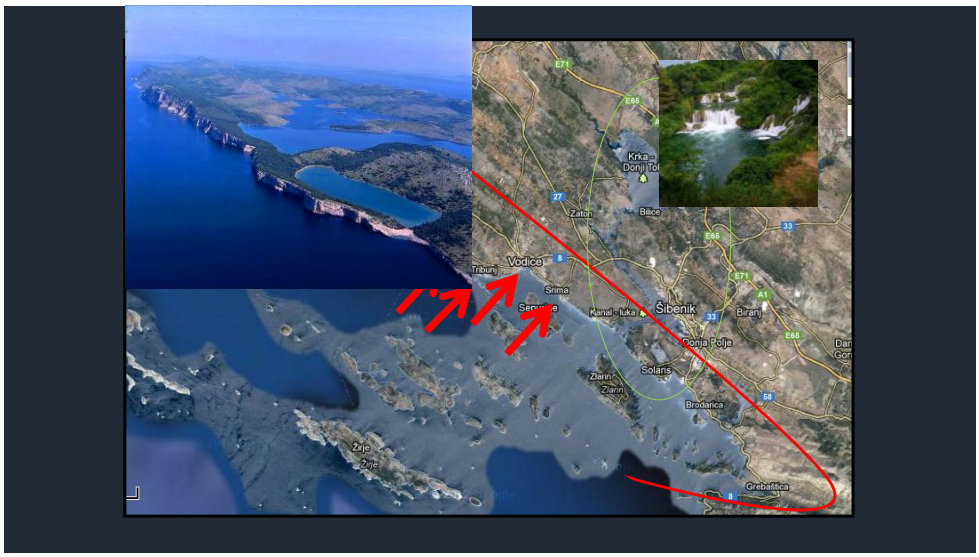


STEERING COMMITTEE MEMBERS:

- Director of the Coastal and marine Department of the MoE
- Director of the Department for the protection of the climate of the MoE
- Director of the department for spatial planning, Ministry of construction and spatial planning
- Croatian Waters, Director of the planning department for the Adriatic basin
- Prefect of the ŠK County
- Director of the department for environmental protection and municipal affairs
- Director of the department for maritime affairs, transport, insular and regional development
- Regional Development Agency
- Mayors of 3 cities
- NGO Island's assembly


Plan preparation and implementation process
Information/education, consultation and participation
ESTABLISHMENT
Establishing Coordination Mechanisms
Definig Territorial Scope
Defining Governance Context
Scoping
Engaging Stakeholders
Proposing a Vision
Deciding on SEA
ANALYSIS & FUTURES
Building the Evidence
Identifying Futures
SETTING THE VISION
Building Consensus
Setting the Direction
Measuring Success
DESIGNING THE FUTURE
Formulating ICZM Strategies, Plans or Programmes
Establishing Management Structure
Embedding
REALISING THE VISION
Implementating
Acting
Monitoring and Reviewing
INTEGRATION
FEED BACK
CM
P
SC
I
C. COMMITTEE FOR IMPLEMENTATION


5
ABOUT ŠKC COUNTY
coastline length 962 km
285 islands and rocks (6 inh.)
2 national + 2 nature parks
10 municipalities
land 1.025 km²
sea 2.683 km²
population 69.300
highly developed coastline
low laying river mouth
coastal county richest by nature, poorest by economy
experiencing sea flooding
Duration: 2013-2015
Šibenik
EXECUTING PARTNERS
Šibenik-Knin County
PAP/RAC
Blue Plan
Metroeconomica
ŠKC institutions


Vodice
Šibenik
Zaton
Srima
Tribunj
Kanal - luka
Biograd
Ponja Polje
Solaris
Zlarin
Brodarica
Grebaštica
Žirje

6

COASTAL PLAN OBJECTIVES:

- to define a management system for coastal areas which can ensure the building of resilience and direct development towards sustainability;
- to identify particularly endangered areas with regard to coastal processes, especially areas vulnerable to the impacts of climate variability and change;
- to propose measures for adaptation to the impacts of climate variability and change; and
- to provide assistance in the formulation and integration of sectoral policies and plans.

7

COASTAL PLAN THEMES:

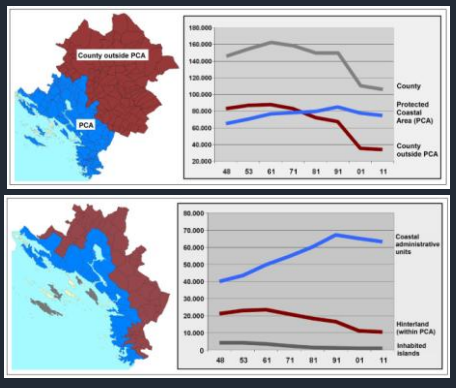
1. Space as the key resource of the coastal zone
2. Climate variability and change, the transversal issue, with effects on:
   - waters & water management,
   - infrastructure,
   - forest fires,
   - economy and society.

- 3. Tools – GIS

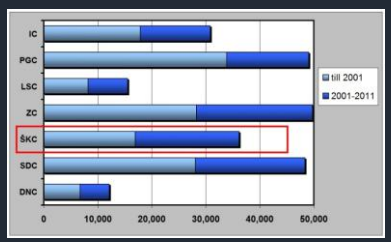
8

FINDINGS: COASTAL SPACE 1

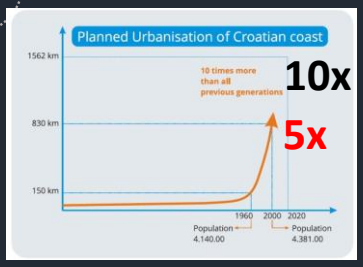
POPULATION

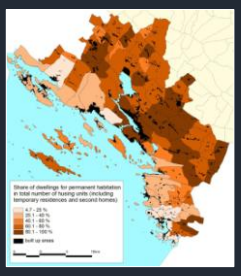


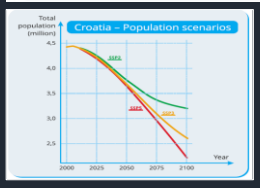
CONSTRUCTION OF SECONDARY HOUSING

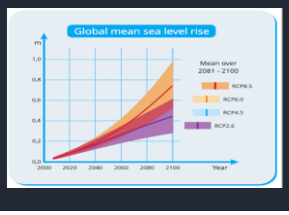


9 FINDINGS: COASTAL SPACE 2



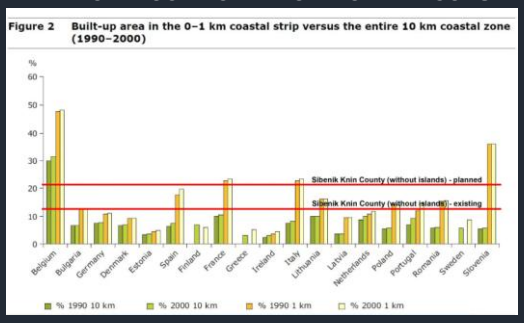






10 FINDINGS: COASTAL SPACE 3

HOW MUCH DO WE BUILD ON THE COAST?



Region	Inhabitant /km2
Croatian Adriatic	57,15
PGC	82,55
LSC	9,51
ZC	46,63
ŠKC	36,65
SDC	100,18
IC	73,96
DNC	68,82

Region	Inhabitant /km2
French Mediterranean coast	366
Provence-Alpes-Côte d'Azur (NUTS2)	729

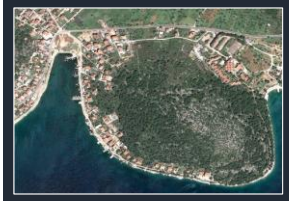
11 FINDINGS: COASTAL SPACE 4

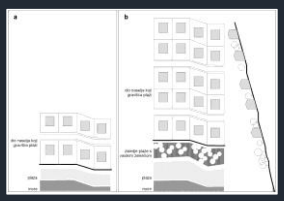
Quality of the built environment is the crucial prerequisite for sustainable tourism development.

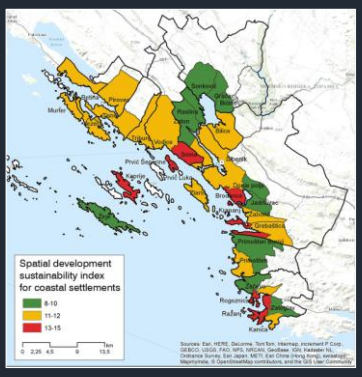
12 SPATIAL DEVELOPMENT SUSTAINABILITY RANKING

CRITERIA:

- Share of construction areas in total settlement area
- Share of built up areas in total construction area
- Share of temporary residents;
- Share of construction areas in 0-1 km coastal strip
- Share of built up construction areas in 0-1km coastal strip
- Share of coastal strip per 1ha of construction areas







13 FINDINGS: SLR COSTS

Potential floodplain area	People flooded annually in 2100	Sea-flood cost in 2100
Neretva Delta	Kaštela Bay	Zadar
Zadar	Neretva Delta	Šibenik
Murter – Kornati	Rijeka	Kaštela Bay
Pag	Zadar	Novalja
Mali Lošinj	Šibenik	Vodice
Šibenik	Pula	Vir
Tar – Vabriga	Umag	Neretva Delta
Sali	Dubrovnik	Umag
Kaštela Bay	Mali Lošinj	Privlaka
Umag	Crikvenica	Sukošan

* DIVA - Dynamic Interactive Vulnerability Assessment

14 FINDINGS: LAV COSTS

The County of Šibenik – Knin will have:

7.8% Inhabitants endangered by sea floods

18.75% Expected damages caused by the sea floods

Greatest potential impacts will be reflected in the damage to coastal assets.

15

FINDINGS: WATER 1

According to international standards on water resources, the County is rich in water over winter and poor in water over summer months. Available water represents a limiting factor for development as of today.

Climate change will make this worse.

16

FINDINGS: WATER 2

Short peak of the season dictates the dimensions of the whole infrastructure.

All negative impacts culminate in August.

Needs for water and for energy culminate in Autus.

Climate change will make this worse.

17

FINDINGS: WATER 3

In August our needs for water are the highest. For inhabitants, for tourists, for electricity production, for irrigation, for combating fires…

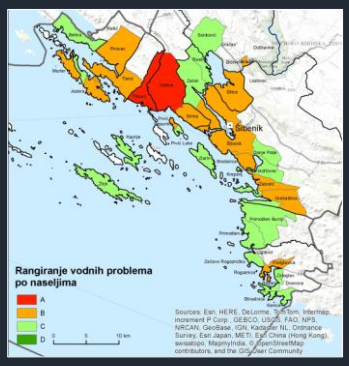
Expected increase in summer heats and droughts will make this worse.

18

WRM ISSUES RANKING

CRITERIA:

- I Coastal water infrastructure in the 10-30m wide coastal belt
- II Settlement water supply
- III Wastewater and drainage and treatment
- IV Storm water of the settlement
- V Storm/surface waters of the hinterland



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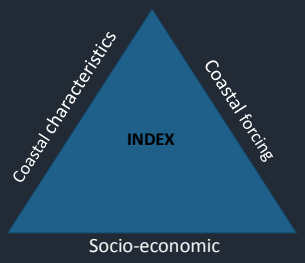
GIS VULNERABILITY ANALYSIS

Selected method: Vulnerability index

- developed by S. McLaughlin, J.A.G. Cooper, 2010
- free choice of parameters (depending on management scale and data availability)
- each parameter is assigned an index from 1 to 5 what enables variables measured in different units to be combined

Index 1 – low vulnerability
Index 2
Index 3
Index 4
Index 5 - high vulnerability



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GIS VULNERABILITY ANALYSIS

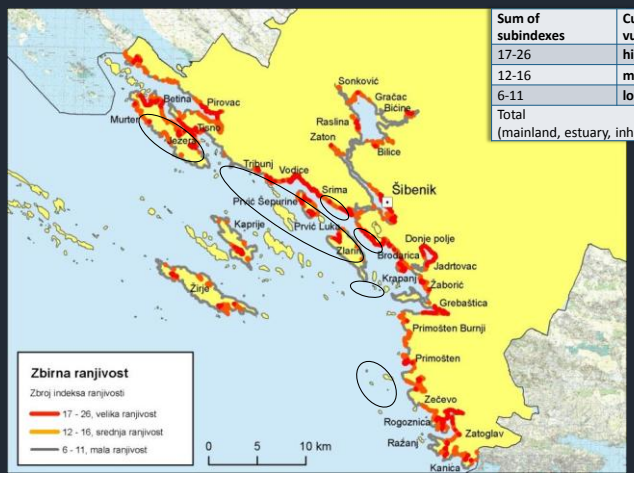
6 vulnerability subindexes are selected:

Subindex 1: type of coast Subindex 2: elevation of coast	Coastal characteristics
Subindex 3: wave height Subindex 4: tidal waves in bays	Coastal forcing
Subindex 5: land use Subindex 6: cultural heritage	Socio-economic parameters

Every subindex is geolocated / assigned to coastline segment and stored in geodatabase.

Cumulative vulnerability =
the sum of the subindexes 1 + 2 + 3 + 4 + 5 + 6

CUMMULATIVE VULNERABILITY: 1 + 2 + 3 + 4 + 5 +



Sum of subindexes	Cumm. vulnerability	Length (%)
17-26	high	79,68 km (17 %)
12-16	medium	134,55 km (28 %)
6-11	low	264,62 km (55 %)
Total (mainland, estuary, inhabited isl.)		478,85 km

The most vulnerable zones:

1.Murter – Tisno

2.Tribunj – Brodarica with island Krapanj

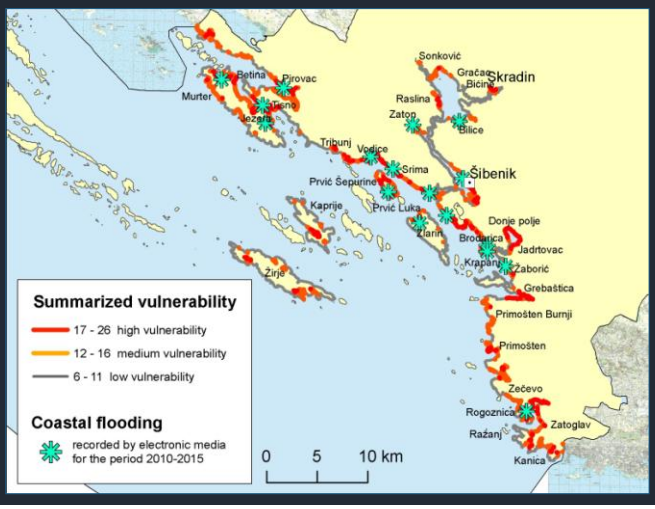
3.Šibenik

4.Morinje

5.Grebaštica

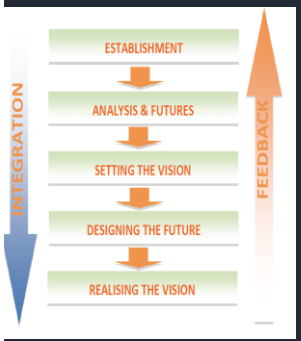
6.Zečevo - Ražanj

UMMARIZED VULNERABILITY VERSUS RECORDED COASTAL FLOODIN



21

ICZM POLICIES AND MEASURES



Initial report
Scoping report
Stakeholder analysis
Analysis of landscape visual exposure
Diagnostic analysis

Local vulnerability assessment

Plan
Maps collection
Summary for the policy makers

Action Plan

Guidelines for building coastal resilience

COASTAL MANAGEMENT POLICIES

- Sustainable spatial development
- Water resources management
- Building of coastal resilience
- Sustainable economic development

GENERAL MEASURES

- Space
- Water infrastructure
- Narrow coastal belt
- Wildfires
- Economy (tourism, agriculture, mariculture, energy, transportation)
- Biodiversity
- Health
- Cultural heritage

SPECIFIC MEASURES

22 MEASURES: MANAGEMENT - GOVERNANCE

NATIONAL COMMITTEE FOR INTEGRATED COASTAL AND MARINE MANAGEMENT

COUNTY COMMITTEE FOR INTEGRATED COASTAL AND MARINE MANAGEMENT:

COORDINATOR: COUNTY PREFECT

SECRETARY: ADMINISTRATIVE DEPARTMENT FOR ENVIRONMENTAL PROTECTION AND MUNICIPAL AFFAIRS

MEMBERS:

ADMINISTRATIVE DEPARTMENT FOR MARITIME AFFAIRS, TRANSPORT, INSULAR AND REGIONAL DEVELOPMENT
ADMINISTRATIVE DEPARTMENT FOR ECONOMY
INSTITUTE FOR SPATIAL DEVELOPMENT
REGIONAL DEVELOPMENT AGENCY
PUBLIC INSTITUTION "NATURE"
PORT AUTHORITY
INSTITUTE FOR PUBLIC HEALTH
COUNTY PROTECTION AND RESCUE OFFICE OF THE NATIONAL PROTECTION AND RESCUE DIRECTORATE
FIREFIGHTING ASSOCIATION
"WATER SUPPLY AND WASTE WATER SERVICE, ŠIBENIK"
"CROATIAN WATERS"

ADVISORY BOARD FOR INTEGRATED COASTAL AND MARINE MANAGEMENT

ADMINISTRATIVE COMMITTEE : CITIES AND MUNICIPALITIES

23 MEASURES: SPATIAL DEVELOPMENT

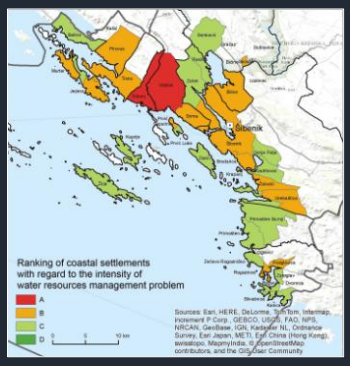
I Preservation of integrated landscape values of the coastal area;
II Improvement of the built-up landscape quality;
III Securing a rational use of coastal land; and
IV Capacity building

24 MEASURES: NARROW COASTAL BELT

I Adaptation of the existing coastal objects, waterfronts, marinas and entire coastal infrastructure, including beaches, promenades, etc. to the extreme weather events;
II Protection of hydro-dynamic features of the coastal sea, biodiversity and positive natural processes of sediment transport; and
III Integration of these considerations in planning and realisation of any coastal intervention

25

MEASURES: WATER MANAGEMENT



I Secure sufficient quantity and good quality of water for all purposes;

II Improve quality of wastewater disposal;

III Secure protection against flooding and droughts;

IV Ensure quality of water infrastructure management; and

V Ensure integrated approach to the management of all waters of the river basin and the coastal zone

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ACTION PLAN

- Prioritization of the measures proposed with the Coastal plan

- For proposed measures the following is provided:
  - responsible stakeholder, partner organization
  - time span
  - implementation activities
  - needed financing
  - possible sources
  - indicators of achievement

- Second part of the action plan identifies priority projects that are to be further developed individually.

GOVERNANCE

1. Securing governance structure and the processes for IUOP
2. Building awareness and readiness for integration, resilience and sustainability
3. Securing quality data, information, knowledge and technologies needed for successful management
4. Securing innovative products for managing coastal zones under changing climate

SPATIAL DEVELOPMENT

1. Preserving values of the coastal zone landscapes
2. Improving quality of the built landscapes
3. Securing rational use of the coastal land

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ACTION PLAN

WATER

1. Protecting sea, water and environment from point-sources of pollution
2. Enhancing resilience of the water supply system and managing drought risks
3. Protecting water and environment from pollution

ECONOMY

1. Enhancing resilience of the coastal economy
2. Enhancing blue and green economy

NARROW COASTAL BELT

1. Enhancing resilience of the narrow coastal belt, coastal infrastructure and the coastal zone
2. Enhancing resilience and managing flood risks

PRIORITY PROJECTS:

1. Vodice
2. Tribunj
3. Šibenik

3.1. Šibenik - Dolac

OTHER INDIVIDUAL PROJECTS:

3.2. Šibenik - Zablaće
3.3. Šibenik – Brodarica
4. Small coastal settlemenmts from the Sv. Ante channel to the border with Zadar County
5. Small settlements of the Krka estuary transitional waters
6. Primošten and sorrounding settlements
7. Rogoznica and sorrounding settlements
8. Islands and island settlements

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CONCLUDING REMARKS

- Coastal Plan demonstrates the importance of the territorial approach, where heritage, identity and culture are the key development drivers

- Coastal Plan represents a platform for prioritisation of the key issues, in this case spatial, climate change, water management and development related challenges in a strategic, integrated and long-term manner, free from the department responsibility limitations

- New coordination mechanism should be a key player towards future resilience and sustainable coastal development

- Recommendations for building coastal resilience of the narrow coastal strip, Interreg Italy-Croatia

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CONCLUDING REMARKS

CREATING FAVOURABLE ENVIRONMENT FOR THE IMPLEMENTATION OF THE PLAN:

- Embedding the plan into the governance system
  - Ingredients of the governance are institutions, legal and regulatory instruments, as well as enforcement mechanisms; scientific expertise and technological tools and methods, information/education, consultation and participation process.
- Creating ownership
- Defining clear, precise goals and secure its wide adoption
- Securing quality
- Securing resources

IF YOU WANT TO GO FAST – GO ALONE
IF YOU WANT TO GO FAR – GO TOGETHER!

African proverb

Session 2: Climagine methodology

Climagine methodology

CO-EVOLVE training course
Barcelona, 30 October 2018

Venue 1

Participation – an obligation from the ICZM Protocol

Article 14

"With a view to ensuring **efficient governance** throughout the process of the integrated management of coastal zones, the Parties shall take the necessary measures to ensure the appropriate involvement in the phases of the formulation and implementation of coastal and marine strategies, plans and programmes or projects, as well as the issuing of the various authorizations, of the various stakeholders, including:

- the territorial communities and public entities concerned;
- economic operators;
- non-governmental organizations;
- social actors;
- the public concerned.

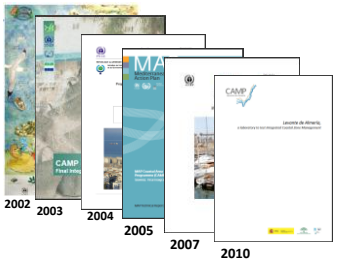
Such participation shall involve inter alia consultative bodies, inquiries or public hearings, and may extend to partnerships".

Participation – a key for the success of ICZM initiatives

- Local stakeholders will define a vision of the desired sustainable development for their coastal zone
- Stakeholders may influence decision makers in order to orientate the actions towards this vision
- The decisions taken will gain in effectiveness and in legitimacy
- Recognition of value of local knowledge, and of its complementarity with scientific knowledge

Why are we using Climagine?

« *Imagine* » methodology developed for the CAMP



« *Climagine* »: the refined methodology which includes the cross cutting dimension of climate change

2013-2015

Climagine's objectives

Set up a vision for the coastal zone

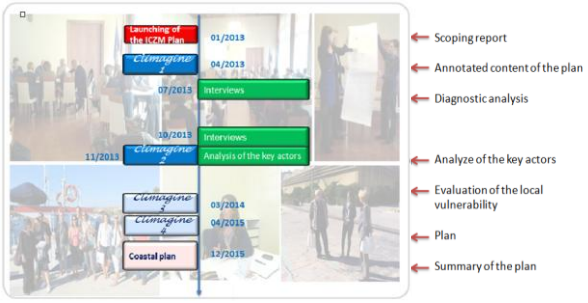
Describe, evaluate and review past, present and future levels of sustainability of local systems using indicators and sustainability thresholds

Set goals and define the necessary systems for monitoring sustainable development with a special focus on climate change

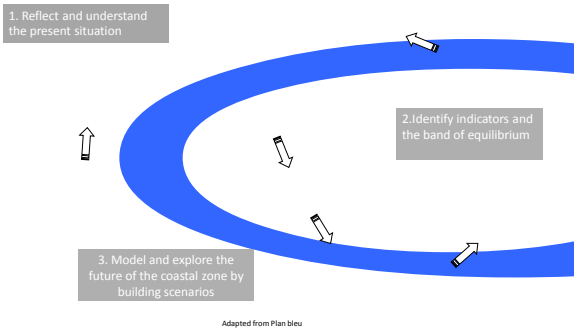
In order to avoid these situations

Climagine's relation to the Coastal plan

Results from Climagine are providing the backbone for the coastal plan ⟺ **Inputs from the coastal plan are used to reach these objectives**



Climagine methodology in 3 steps



Step 1: Reflect and understand the situation

Objectives

- Understand the situations, links, influences and other causations in the coastal zone
- Identify the main stakes
- Set a vision for the coastal zone
- Create a positive dynamism among participants

Tool

- Design of rich pictures

Step 1: Reflect and understand the situation

The rich picture is a pictorial representation of environmental, social or economic systems using drawings, diagrams, or symbols.

Its main asset is that it allows the group to have a deep reflection on a given situation, and to understand the multiple dimensions of complex issues

The rich picture has to :

• depict the main drivers and pressures on the coastal zones, as well as their interaction;

• illustrate which are the main obstacles to sustainable developement of the area

Step 1: Reflect and understand the situation

List of priorities	List of possible indicators

Step 1: Reflect and understand the situation

Particularities in the context of climate change

- The participants may not have necessary understanding of climate change to identify the priorities for a near future – importance to provide a minimum knowledge through the ICZM team of experts

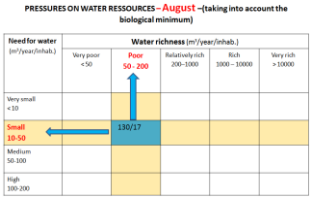
Example of inputs given by the experts in the Plan of Sibenik-Knin

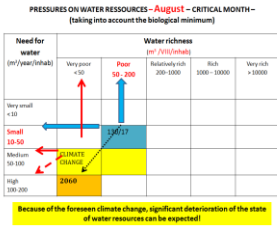
Risks linked with the sea level rise in Sibenik-Knin County	Risks linked with the augmentation of the sea's temperature and salinity
Flooding of the coastal zone and towns	Impacts on the biodiversity
Threats for the safety, the health and the goods of the County population	Negative impacts on aquaculture and shellfish production
Damages on the coastal infrastructure and empechment of good functionning	Impacts on the fishing activity (raise of the number of fish living in warm waters)
Intensification of the erosion	Impacts on tourism
Impacts on the safety of navigation	

Step 1: Reflect and understand the situation

Particularities in the context of climate change

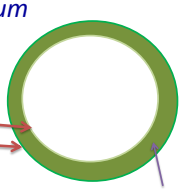
- Some crucial issues may only appear when envisaged in the context of climate change





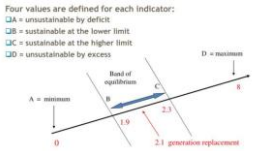
Step 2: Identify indicators and the band of equilibrium

- Select the indicators by evaluating their relevance and their feasability
- Set the value of the indicators at the present time
- Set the band of equilibrium



The band of equilibrium (where all the indicators should be situated in a sustainable situation)

Ex of band of equilibrium: total fertility rate

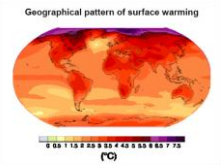


Source: Plan bleu

Step 2: Identify indicators and the band of equilibrium

Particularities in the context of climate change

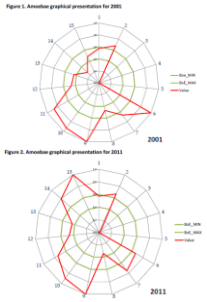
- Many of the potential indicators related to climate change impacts could be hard or impossible to measure
- Some datas may be available at the global level but not at the local level
- An expert support may be needed to confirm the availability of the data as well as its quality



Step 3: Draw amoeba diagrams and build scenarios

Example of indicators for Sibenik Knin County

Dimension	Indicator
Water	1. Average level of usage of water resources per year (in %)
Water	2. Average level of usage of water resources in August (in %)
Sea	3. Share of beaches with "excellent" and "good" bathing water quality (in %)
Soil	4. Irrigated agricultural land (in ha)
Soil	5. Land used for ecological plant production (in ha)
Fires	6. Total area devastated by forest fires per year (in ha)
Energy	7. Immediate energy consumption (in PJ)
Space	8. Share of residential apartments in the total number of apartments in the protected coastal belt (in %)
Space	9. Population density in the protected coastal zone in relation to the one outside the protected coastal zone
Population	10. Share of the employed population in the total number of population of working age in the protected coastal zone in relation to the population outside of it
Population	11. Share of population with high school, grammar school and college education in the older than fifteen population in the protected coastal zone, in relation to the population outside of it
Environmental protection	12. Marine protected area in relation to the total marine area (%) (u %)
Environmental protection	13. Protected land area in relation to the total land area (%)
Waste	14. Kilos of waste per capita per year
Waste	15. Kilos of waste per capita in the protected coastal zone/ outside the protected coastal zone



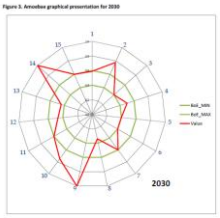
Step 3: Draw amoeba diagrams and build scenarios

Build scenarios

- Based on the tendencies identified through the making of the Amoebas, scenarios may be elaborated.
- Most often 3 scenarios are being built (pessimistic scenario, business as usual, and alternative scenario)

Scenarios provide the essential basis for long-term decision-making on development and environmental protection models – they allow to get a clear vision of the desirable future for the coastal zone.

Scenarios will provide the basis to build up the action plan



Step 3: Draw amoeba diagrams and build scenarios

Particularities in the context of Climate change

• Socioeconomic, demographic, social and environmental evolutions has to be combined with climate change scenarios ⟹ High degree of uncertainty

• Taking into account the issue of climate change may request to choose a further time horizon

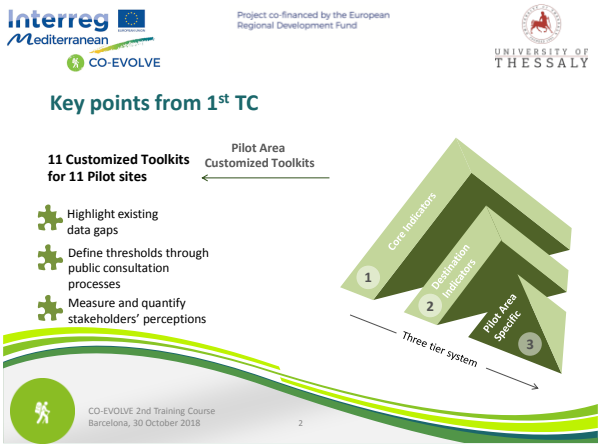
Suggestions

• Taking into account one scenario of IPCC can facilitate the process.
• Keeping a time horizon close to the one of strategic planning (20-30 years) is desirable to allow participants to project themselves in the exercise.

Conclusions on Climagine

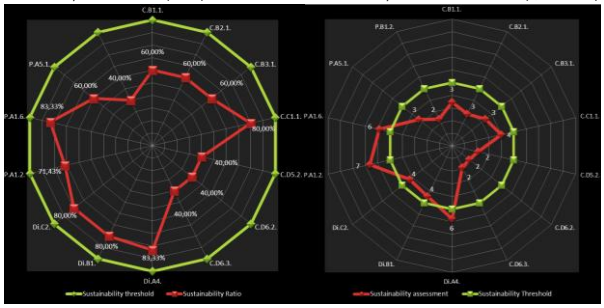
- By organizing Climagine workshops in the framework of the elaboration of the ICZM Plan, they significantly enriched stakeholders' knowledge on the impacts of climate change on their territory, allowing them to soundly plan the future of their coastal zone
- Some playful exercises such as the realization of the rich pictures helped to break down the barriers between participants and develop a team spirit which continued throughout the whole development of the plan.
- Thanks to Climagine, the stakeholders have taken full ownership of the coastal plan and continue to promote the results in Croatia and beyond.

Session 3: Practical use of indicators in the pilot project areas



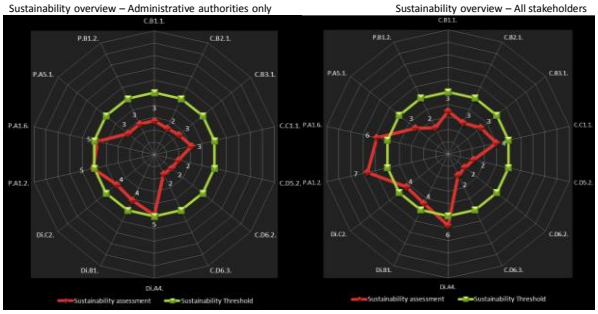
Measuring tourism sustainability based on stakeholders' perceptions – *Step 3 Metadata Analysis (1/3)*

Sustainability overview – Ratios (Toolkit) | Sustainability overview – Absolute values (Questionnaire)



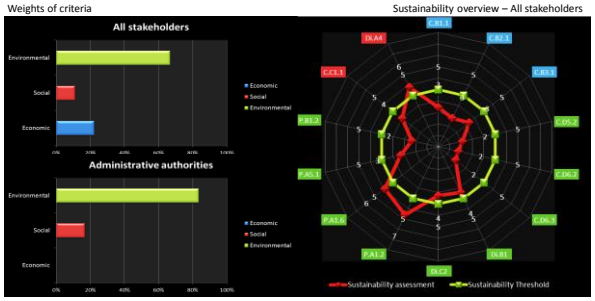
Measuring tourism sustainability based on stakeholders' perceptions – *Step 3 Metadata Analysis (2/3)*

Sustainability overview – Administrative authorities only | Sustainability overview – All stakeholders



Measuring tourism sustainability based on stakeholders' perceptions – *Step 3 Metadata Analysis (3/3)*

Weights of criteria | Sustainability overview – All stakeholders



Measuring tourism sustainability based on stakeholders' perceptions – *Lessons learned*

- Simple qualitative questions (preferably translated) → Aiming at an assessment not an actual number
- Targeted audience → Expert knowledge on the pilot areas
- Interviews instead of questionnaires → clearer results

Measuring tourism sustainability based on stakeholders' perceptions – *Information gained*

- Overcoming data gaps → Sustainability overview of the pilot areas recorded in time
- Valuable input for policy making and actions prioritization
- Step forward towards the integration of stakeholders in planning procedures

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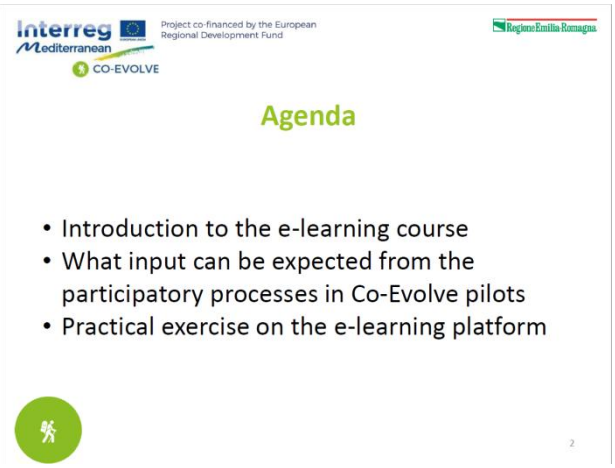
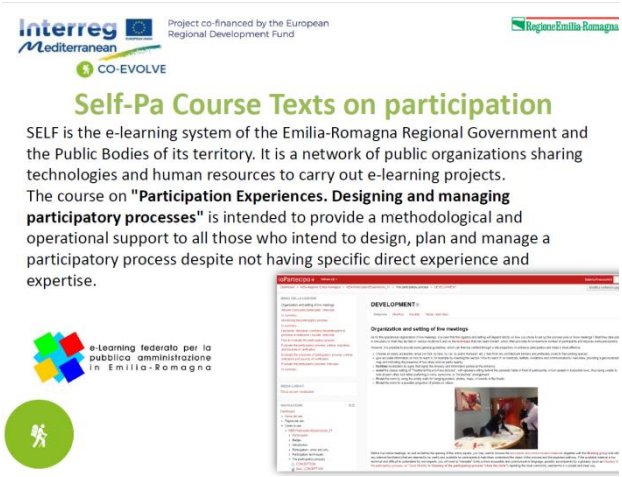
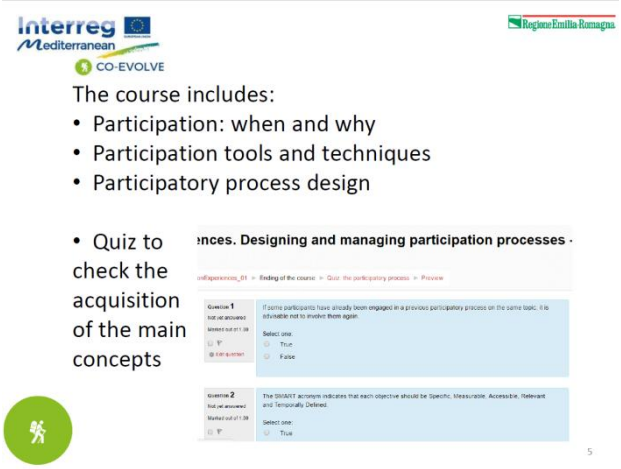
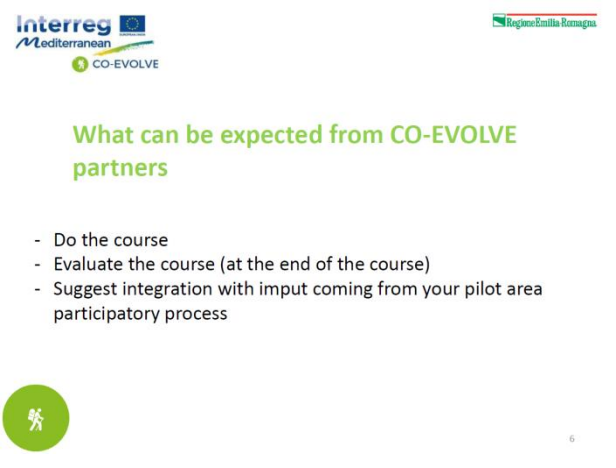
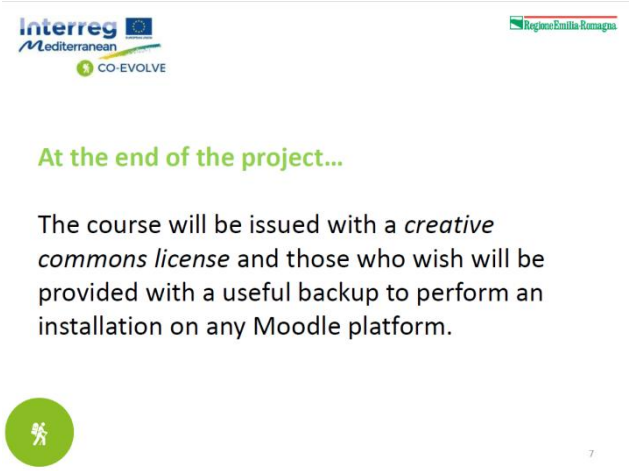
Session 4: Designing and managing participatory processes, e-learning course

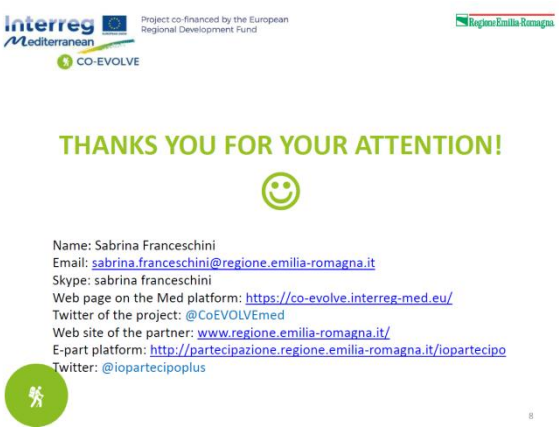




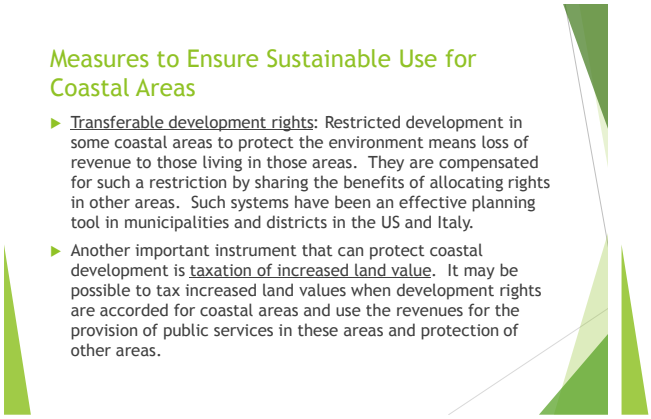


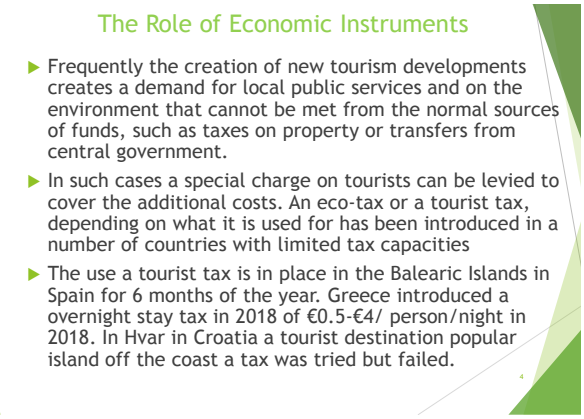






Session 5: Financial opportunities and economic instruments for pilot project implementation





Different Rules to Ensure Financial Sustainability of Coastal Tourist Areas

- Polluter Pays Principle
- Beneficiary Pays Principle
- Budget Support
- Voluntary Contributions

Assessing Different Financial Resources

Method	Legal Framework	Collection Cost	Equity	Political Accept-ability	Economic Costs
Polluter Pays Principle (PPP)	Established in OECD countries as principle and has legal backing	Depends, low for enterprises, higher for households	Depends	Has fairly wide acceptance	Can be low if well designed
Budget Support	Legal facility normally exists	Low	If taxes are progressive, method is equitable	Generally quite high	High, as costs of public funds are high
Voluntary Payments	May need to be established but could be fairly simple	Depends, but probably lower than PPP or BPP	By definition it has strong equity dimension	Generally quite high	Low
Beneficiary Pays Principle (BPP)	In some cases framework exists (PES)	As for PPP	Depends	Also has fairly wide acceptance	Can be low if well designed.

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Example of Different Instruments in "Medland"

- A regional authority has a plan to spend €100 million in developing a new tourism area with the following infrastructure and facilities:
  - Improved access roads to the area
  - Tertiary waste water treatment facilities for a group of hotels and residences
  - Establishing of marked trails, safety patrols, and cleaning of public areas near the sea.

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Example of Medland

- Data has been collected on WTP etc. of beneficiaries
- Data has also been collected on users, polluters
- Data has been collected on local budgets, numbers of taxpayers etc.
- For the example it is assumed that there are 100,000 residents, of whom 25,000 are local taxpayers, each paying €1,500 per annum in property taxes. The rate of discount is 15%, which may seem high but is often required.

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Example of Medland

- For the road scheme:
  - The BPP method would charge businesses and visitors in proportion to their benefits (33 percent and 67 percent respectively). The resulting payments would be €599 per business and €60 per visitor. The latter would be a one time payment for an annual visitor pass, and may be difficult to charge, unless there is a clear entrance point to the area.
  - The PPP scheme for the roads would charge each vehicle €320 for annual use of the road scheme.
  - The budget cost of the scheme would be €359 per property, or a 24% increase in the present property tax.

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Example of Medland

- For the tertiary treatment:
  - A BPP plan would charge each hotel €320 per bed per annum to cover the full costs.
  - Alternatively the change could be collected from the guest at €2.2 per night. If the latter were used, the risk of too few visitors would be borne by the authority making the investment.
  - Finally a budgetary charge of €72 could be made, amounting to a 5% increase in the property tax.

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Example of Medland

- For the trails, cleaning of sea areas etc.
  - The beneficiaries and polluters are the same.
  - A charge of €0.6 per day per visitor would cover the full cost of the scheme.
  - Or a budgetary cost could be imposed of €28 per year, equal to a 2% increase in the tax rate.
  - Or local NGOs could organize a cleaning of beach areas, involving schools etc. The cost of this could be borne entirely by them but perhaps the city government could provide some support.

Financial Plans for the Road Scheme

	BPP €	PPP €	Budget As % of €/Year Tax Bill	
Road Scheme				
Per Business per year	599.0			
Per Visitor per year	59.9			
Per Vehicle per year		299.5		
Per Taxpayer per year			359.4	24%
Tertiary Treatment				
Per Guesthouse per bed per year	319.5			
Per Guest per night		2.19		
Per Taxpayer per year			71.9	5%
Marked Trails etc.				
Per person per day	0.58	0.58	27.97	2%

Pro Forma

- The above analysis provides a pro-forma which can be used in preparing a financial sustainability plan for each project or program.
- Data collection on different groups of polluters and beneficiaries is very important. This has to be done prior to setting up the financial schemes.
- Discussion of the options by local government, involving different stakeholders will be critical.
- This information is critical for seeking external finance.

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Pro Forma

- Carry out an analysis of the results using the criteria outlined in Table 1 above, covering issues of:
  - Legal Framework
  - Collection cost and administrative efficiency
  - Equity
  - Political acceptability
  - Economic costs of implementation.
- Finalise the financial plan after reviewing initial data, if necessary revising the demand estimates initially prepared.

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Summary

- Financial opportunities for development of coastal tourism are not difficult to find.
- Private and public sectors need to work together to ensure the development is sustainable and balances environmental, social and economic objectives.
- Economic instruments to finance developments in a strategic way include TDRs, taxation of land value gains.
- Financial sustainability involves balances different financing principles

Summary

- As with all tools, it is through application and implementation that problems will be ironed out and improvement made.
- The suggestion, therefore, is that the pilot program use this framework for the financial analysis of the projects and, through discussions, reach a revised version that will stand the test of time.

Session 6: Cost-Benefit analysis

Cost Benefit Analysis

Applications for the development of sustainable coastal and maritime tourism in the Mediterranean

Outline

- Public investments and policies need to be evaluated to decide if they offer good value for the money spent. All governments undertake some kind of evaluation of the options proposed before deciding on which one to adopt.
- This session looks at economic-based rules for evaluation, but remember these are only an input to the decision-making. Eventually the policy makers decide taking account of all factors: economic, social, political.

Financial Analysis

- A project or program involves a number of financial expenditures and offers some financial returns as a result.
- A financial analysis looks at all expenditures at different points in time and all the returns. These expenditures and returns may be incurred by the government or the private sector but both are taken into account.

Financial Analysis

- C_t = cost incurred by the project in year t
- R_t = revenue generated by the project in year t
- r = the discount rate (risk adjusted market rate)
- A summary of the project can be given as the Net Present Value (NPV):

$$NPV = \sum_t (R_t - C_t)/(1+r)^t$$

- The NPV > 0 for the project to have a positive financial rate of return
- If there are several projects we choose the one with the highest NPV

Financial Analysis

- Another indicator is the financial internal rate of return (FIRR), which is the value of r (r*) such that:

$$0 = \sum_t (R_t - C_t)/(1+r^*)^t$$

- The FIRR indicates the rate of return the project or program generates and can be compared for example to the rate at which funds are borrowed on financial markets.
- The acceptable FIRR for a project will vary according to the risks it involves.

Financial Analysis

- Another measure of the financial value of the project or program is the Benefit-Cost Ratio (BCR).

$$BCR = \frac{\sum_t R_t/(1+r)^t}{\sum_t C_t/(1+r)^t}$$

- The BCR has to be greater than one for a project to be financially viable, and the project with the highest BCR is chosen
- All three measures can be used for evaluation.

Financial Versus Social Analysis

- The financial analysis tells us only about the financial desirability of the project.
- It does not tell us if the project is socially viable.
- Social assessment differs from the financial assessment because:
  - Some impacts of a project do not generate financial flows but could represent costs or benefits to society. (e.g. **environmental costs of tourism projects, loss of biodiversity from land conversion**).
  - Some impact have financial flows but the size of the flow does not represent the true social cost. (e.g. a project that employs labor which is currently unemployed does not have a social cost equal to the amount paid to the labor. Taxes also drive a wedge between financial costs/benefits and social costs/benefits)
- For these reasons we also want a social assessment of the project or program.

Benefit Cost Analysis

- In this method we collect data on all costs that are incurred, including those that do not have any financial flows.
- We also collect data on all benefits that the project generates, including benefits that do not have financial flows.
- We modify those financial flows where the social value of the flow is different from the financial value.
- Finally we use a social rate of discount δ, not the market rate of r.

Benefit Cost Analysis

- The indicators are similar to those for the financial evaluation but now with social values. The net present value is now given as:
- Where B_t is the social benefit in period to and SC_t is the social cost in period t.

$$NPV = \sum_t (B_t - SC_t)/(1+\delta)^t$$

- The internal rate of return is now the social internal rate of return and is given as r^*:

$$0 = \sum_t (B_t - SC_t)/(1+r^*)^t$$

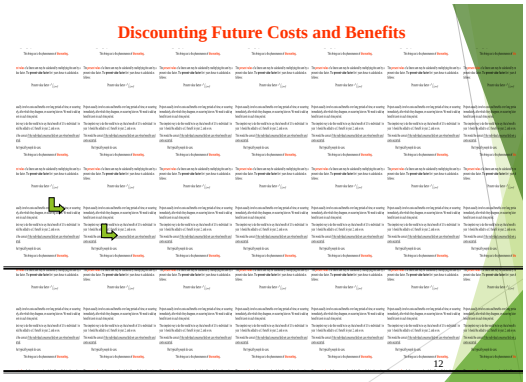
Benefit Cost Analysis

- Finally we have the social benefit cost ratio, which is now given as:

$$BCR = \frac{\sum_t B_t/(1+\delta)^t}{\sum_t SC_t/(1+\delta)^t}$$

- The financial and social evaluations can differ a lot depending on what items in a project do not have money values and what items are not valued correctly in social terms.

DISCOUNT RATES



Present value of 1 euro received *t* years from now:

Year	Discount Rate				
	5.0%	7.5%	10.0%	12.5%	15.0%
5	0.784	0.697	0.621	0.555	0.497
10	0.614	0.485	0.386	0.308	0.247
15	0.481	0.338	0.239	0.171	0.123
20	0.377	0.235	0.149	0.095	0.061
50	0.087	0.027	0.009	0.003	0.001

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Some of the Implications of Positive Discounting

- Fewer investments are undertaken, which have large initial costs and long term returns, benefits or pay-offs; e.g. hydroelectric and water irrigation projects.
- Major future costs are not given their true importance, e.g. the need to decommission large undertakings such as a nuclear or conventional power plant, or the cleaning up of contaminated land.
- The cost of storing and disposing of nuclear or toxic wastes is significantly minimized.
- The effect of high rates may be to preserve some natural areas. On the other hand, the benefits of long-term projects such as hardwood plantations are grossly minimized in terms of present values.
- The higher the rate of discount, the greater the discrimination against future generations; future generations may bear a disproportionate share of the future costs of the project.
- The higher the discount rate, the lower will be the level of capital investment and hence the lower the capital stock inherited by future generations.

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Reasons why financial and economic analysis of tourism might differ

Social Linkages

- Tourism can contribute to poverty reduction:
  - Increased employment, with consequential increase in incomes
  - Positive environmental changes
  - Increased access to services such as water supply and sanitation as an ancillary benefit of tourism development projects
  - Increased access to education
- Other studies note we can make it more pro-poor by:
  - Including local communities in planning and decision-making
  - Ensuring a high level of local inputs in services
  - Ensuring alternative sustainable livelihoods are provided when tourism is based on reduced access to common resources

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Social Linkages

- But tourism also has negative poverty impacts:
  - Price increases
  - Reduced access to water and energy
  - Reduced access to conservation areas/tourism areas
  - Impacts on health (e.g. AIDS)

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Environment Linkages

- Congestion – impacts of tourist numbers on both enjoyment of tourism destination and on environmental quality, with services such as wastewater being potentially overloaded in peak season
- Increased pollution loads in both water and air;
- Use of resources – particularly fresh water and energy resources;
- Solid waste generation

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EXAMPLES OF FINANCIAL AND SOCIAL EVALUATION

Example I

- The financial cost is $100 in year 0 and $5 in years 1-5. The benefits are $30 in years 1-5. the financial discount rate is 10%
- In this case 30% of the cost is labor, which is paid an amount that is 50% higher than the loss of output by moving the labor out of its current employment to employment in the project. The social discount rate is 5%
- The results are as follows: The project is not financially viable but it is socially viable.

Example

Time	0	1	2	3	4	5
Financial						
Cost	100	5	5	5	5	5
Revenue	0	30	30	30	30	30
Discount R	10%					
Net Flow	-100	25	25	25	25	25
NPV=	($4.75)	IRR=	8%	BCR=	0.96	
Social						
Cost	85	4.25	4.25	4.25	4.25	4.25
Revenue	0	30	30	30	30	30
Discount R	5%					
Net Flow	-85	25.75	25.75	25.75	25.75	25.75
NPV=	$11.47	IRR=	16%	BCR=	1.26	

Example II

- The financial cost is $100 in year 0 and $5 in years 1-5. The benefits are $35 in years 1-5. the financial discount rate is 10%
- In this case the project incurs an environmental cost due to loss of ESS of $10 in each year. That is not accounted in the financial calculations. The social discount rate is 5%
- The results are as follows: The project is now financially viable but is not socially viable.

Example II

Year	0	1	2	3	4	5
Financial						
Cost	100	5	5	5	5	5
Revenue	0	35	35	35	35	35
Discount R	10%					
Net Flow	-100	30	30	30	30	30
NPV=	$12.48	IRR=	15%	BCR=	1.12	
Social						
Cost	100	15	15	15	15	15
Revenue	0	35	35	35	35	35
Discount R	5%					
Net Flow	-100	20	20	20	20	20
NPV=	($21.99)	IRR=	0%	BCR=	0.92	

Why Financial and Social Assessment May Differ and How to Bridge the Gap

Reason	Action
Environmental costs of the project do not generate financial costs (e.g. loss of biodiversity)	Make the project developer pay into an environmental fund an amount equal to the loss
Project generated environmental gains that do not translate into financial gains to the developer/government (e.g. protection or conservation area)	Identify the beneficiaries and develop a program to capture the benefits if possible
The project generates employment for low skilled people who would otherwise not be employed.	Pay a subsidy to the employer of the project through public funds so his costs reflect the social costs of employment?
Financial costs include taxes paid by the developer but these are not social costs.	It may be necessary to rebate taxes if the project is not financially viable.

Examples of CBAs of WB Tourism Projects

Project	Loan $Mn.	Main Components	Economic Effects	Environment	Social
Abu Soma Tourism Egypt	62.5	Investment in Infrastructure Environmental Management of Red Sea	Arrivals increased by 20,000 p.a. FE earnings up by $1.7mn/Yr. Private inv. up by $352mn ERR ex post = 10.3%	EIA carried out and neg. impacts mitigated	Primary jobs up by 20 000 Total jobs up by 44,000
Macedonia	5.0	Establish cultural centres in pilot sites	2% annual visitor growth Economic Benefit=$1.3 Mn Ex ante ERR=18%	Piloted innovative EA for tourism impacts	Small employment gain estimated
Lebanon	31.5	Historic site management & protection	No of visitors and FE earnings up 6-17% Revenues/Visitor up 37-65%	EIA influenced plan	Improved quality of life for all

Examples of CBAs of Tourism Projects

Project	Loan $Mn.	Main Components	Economic Effects	Environment	Social
Cultural Heritage Project, Tunisia	17.0	Site development, marketing	ERR estimated at between 17-70% ex ante.	EA conducted and design reflects findings	Social assessment undertaken and design reflects it
Dominican Republic	5.0	Sewerage services to handle additional waste and improve bathing quality	NPV = $4.3 mn. At 12% discount rate.	Improvement in coastal water	
Sustainable coastal tourism Honduras	5.0	Strengthen capacity to manage Restore cultural sites Small business training	Tourism growth up from 4% to 8% Increased park revenues Ex ante benefits range $2.7 to $38.4 mn/		

Conclusions about CBA

- We cannot value all benefits and costs in money terms.
- We do not take account of who gains and who loses – distributional factors are not included.
- Different actions have different levels of uncertainty and this is not accounted for.
- Some of these elements can be addressed in a CBA framework but others need to be taken into account outside the framework.
- *Ex ante* estimates are not the same as *ex post*. Good t estimate *ex post* figures to learn what mistakes were made when doing the initial analysis.